

Notice of Allowability

Application No.

09/574,900

Examiner

Manav Seth

Applicant(s)

MICHEL ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/18/2005.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ The drawings filed on 28 August 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 08262005 .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 18, 2005 has been entered.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's attorney of record, Mr. David Metzger, registration number 32919, on 08/26/2005, at 2:30 p.m. Examiner's amendment in the specification:

(a) **Line 3 of page 3 of the specification recites:** "These inconveniences are particularly objectionable with a higher **ellargement**". Delete the word "**ellargement**", insert the word - - **enlargement** - -.

(b) **Line 7 of page 4 of the specification recites:** "energy, and a picture is updated using the **steepestr** descent method". Delete the word "**steepestr**", insert the word - -**steepest** - -.

(c) Line 12 of page 4 of the specification recites: "In the MAP method, it is crucial how an energy function **representuing** the above". Delete the word "**representuing**", insert the word - - **representing** - -.

(d) Line 4 of page 11 of the specification recites: "**Figure 12.** shows the function in a graphic form". There is no figure 12 in the application. Delete the word "**figure 12**", insert the word - - **figure 2** - -.

(e) Line 15 of page 20 of the specification recites: "The present invention is applied **top** a picture processing apparatus 10". Delete the word "**top**", insert the word - - **to** - -.

(f) Line 17 of page 21 of the specification recites: "a recording medium, such as a tape or a **hared** disc, a next-stage signal processing". Delete the word "**hared**", insert the word - - **hard** - -.

Allowable Subject Matter

Reasons of Allowance:

3. Claims 1-16 are allowed.

The following is an examiner's statement of reasons of allowance:

The instant invention is directed to picture processing method and apparatus in which an energy function of a picture is defined in advanced and stored, an input picture is enlarged, that is the number of pixels is increased, and a gradient value of the energy function in the pixel of the enlarged picture is calculated and further (a) a sum of gradient values of said energy function and (b) a value not dependent on the input picture to said pixel is added and the result of the addition is used to update the value of the said pixel for picture resolution adjustment. The closest prior art (Eliezer Peli, U.S. Patent No. 6,611,618) discloses preparing an energy function using Hilbert

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Transform (col. 2, lines 25-30; col. 6, lines 3-65) in advance before enlarging the image and further teaches changing the size (enlarging) of the image (col. 10, lines 15-25). Determining the gradient of each pixel is very well known in the art. However, the closest prior art does not teach the specifics of how the picture energy function calculated before enlarging the image, is used in updating the parameter with respect to a value that is not dependent on the input picture. The prior art of record does not teach the limitations:

- (a) “adding together a sum of the gradient values of said energy function and a value not dependent on the input picture to said pixel; and updating a value of said pixel for picture quality adjustment using the result of said addition” as recited in claims 1 and 9,
- (b) “calculating a value which decreases said energy function for a pixel of the enlarged picture; adding said energy decreasing value to said pixel; and updating a value of said picture quality adjustment using the result of said addition” as recited in claims 4, 8, 12, and 16.

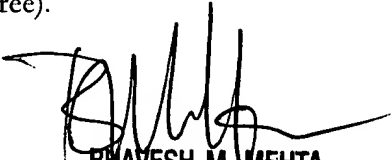
Therefore, claims 1, 4, 8, 9, 12 and 16 are allowed. All other claims dependent on claims 1, 4, 8, 9, 12 and 16 are allowed at least by dependency on claims 1, 4, 8, 9, 12 and 16.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manav Seth whose telephone number is (571) 272-7456. The examiner can normally be reached on Monday to Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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TECHNOLOGY CENTER 2600

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August 26, 2005